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CW 52: Dilations & Rigid Motion

**Honors Geometry**

How are dilations related to similar figures?

****Explain rigid motion. Is a dilation rigid motion? If not provide an example.

1. Dilate the figure below using a scale factor of 2. [Use the origin as the center of dilation.]
2. ****Dilate the figure below using a scale factor of 1/3. [Use the origin as the center of dilation.]
3. *PLU* is translated 1 unit left and 4 units up, then dilated by a scale factor of 2 (centered at the origin). The coordinates of the pre-image are given below, find the coordinates of the first image and the final image.

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| Directions: Given the coordinates of the pre-image, find the coordinates of the first image and the final image of each shape below. Take all the dilations to be centered at the origin. You MUST include a graph with the pre-image, first image, and final image. | |
| 1. Triangle *VHN* is translated 3 units right, then dilated by a scale factor of ½.  ’’ | 2. Triangle *TXN* is dilated by a scale factor of 2 and reflected across the line .  ’’ |
| 3. *LAX* is rotated 180° about the origin, then dilated by a scale factor of 4.  ’’ | 4. Triangle *BSG*  is reflected across y=3 and dilated by a factor of 3.  ’’ |
| 1. Triangle *WTD* is translated 6 units right and 1 unit up, then dilated by a scale factor of ¼.   ’’ | 1. *GNIX* is dilated by a scale factor of 5 and reflected across the line x=2.   ’’  ’’ |
| 1. *MPZK* is dilated by a scale factor of 5 then rotated 90° clockwise about the origin.   ’’  ’’ | 1. *YGIR* is rotated 90° counterclockwise about the origin and dilated by a scale factor of 7.   ’’  ’’ |
| 1. Triangle *HJI* is reflected across the x-axis then dilated by a scale factor of .   ’’ | 1. *LACD* is rotated 180°about the origin then dilated by a scale factor of 6.   ’’  ’’ |
| 1. Triangle *AHI* is rotated 90° clockwise about the origin then dilated by a scale factor of 9.   ’’ | 1. Triangle *IJF*  is dilated by a scale factor of 2 then reflected across y=2.     ’’ |